

The following claims are presented for examination:

- 1. (Currently Amended)** A method of processing a communication in a communication system, the method comprising the steps of:
  - generating a plurality of terms by combining at least one word and at least **one** word class;
  - identifying a plurality of words contained within the communication; and
  - classifying the communication containing the plurality of words by utilizing a joint classifier to determine at least one category for the communication based on application of the plurality of terms to the plurality of words without considering whether a given one of the plurality of terms is a word or a word class.
- 2. (Original)** The method of claim 1 wherein the joint classifier is implemented at least in part in a processor-based device of the communication system.
- 3. (Original)** The method of claim 2 wherein a natural language call routing element of the switch routes the communication to a particular one of a plurality of destination terminals of the system based on the determined category.
- 4. (Original)** The method of claim 1 wherein an automatic word class clustering algorithm is utilized to generate the word class from at least one training corpus.
- 5. (Previously presented)** The method of claim 1 wherein one or more of the words and word classes utilized to generate the plurality of terms are selected using information gain based term selection.
- 6. (Previously presented)** The method of claim 5 wherein the information gain based term selection determines an information gain value for each of the plurality of terms, the information gain value being indicative of entropy variations over a plurality of possible categories, and being determined as a function of a perplexity computation for an associated classification task.
- 7. (Previously presented)** The method of claim 1 wherein the plurality of terms is generated by appending a class corpus to a word corpus.
- 8. (Previously presented)** The method of claim 1 wherein the plurality of terms is generated by joining sets of multiple words with corresponding sets of word classes.

**9. (Previously presented)** The method of claim 1 wherein the plurality of terms is generated by interleaving individual words with their corresponding word classes.

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**10. (Previously presented)** A method of processing a communication in a communication system, the method comprising the steps of:

identifying a plurality of words contained within the communication; and classifying the communication containing the plurality of words utilizing a joint classifier to determine at least one category for the communication based on application of the plurality of terms to the plurality of words without considering whether a given one of the plurality of terms is a word or a word class;

wherein the combination of word information and word class information comprises at least one term-category matrix characterizing words and word classes selected using information gain based term selection.

**11. (Original)** The method of claim 10 wherein a cell  $i, j$  of the term-category matrix comprises information indicative of a relationship involving an  $i$ -th selected term and a  $j$ -th category.

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**12. (Previously presented)** A method of processing a communication in a communication system, the method comprising the steps of:

identifying a plurality of words contained within the communication; and classifying the communication containing the plurality of words utilizing a joint classifier to determine at least one category for the communication based on application of the plurality of terms to the plurality of words without considering whether a given one of the plurality of terms is a word or a word class; and

wherein the information gain based term selection calculates information gain values for each of a plurality of terms, a given one of the terms comprising a word or a word class, sorts the terms by their information gain values in a descending order, sets a threshold as the information gain value corresponding to a specified percentile, and selects the terms having an information gain value greater than or equal to the threshold.

**13. (Original)** The method of claim 12 wherein the selected terms are processed to form a term-category matrix utilizable by the joint classifier in determining one or more categories for the plurality of words.

**14. (Currently Amended)** The method of claim [[1]] **12** wherein the joint classifier comprises a joint latent semantic indexing classifier.

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**15. (Previously presented)** An apparatus for processing a communication in a communication system, the apparatus comprising:

a processor-based device operative to generate a plurality of terms by combining at least one word and at least word class, to identify a plurality of words contained within the communication, and to classify the communication containing the plurality of words utilizing a joint classifier to determine at least one category for the communication based on application of the plurality of terms to the plurality of words without considering whether a given one of the plurality of terms is a word or a word class.

**16. (Original)** The apparatus of claim 15 wherein the processor-based device comprises a switch of the communication system.

**17. (Original)** The apparatus of claim 15 wherein the processor-based device comprises a processor coupled to a memory.

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**18. (Previously presented)** An article of manufacture comprising a machine-readable storage medium containing software code for use in processing a communication in a communication system, wherein the software code when executed implements the steps of:

generating a plurality of terms by combining at least one word and at least word class;

identifying a plurality of words contained within the communication; and

classifying the communication containing the plurality of words by utilizing a joint classifier to determine at least one category for the communication based on application of the plurality of terms to the plurality of words without considering whether a given one of the plurality of terms is a word or a word class.